

SO YOU WANT TO BE A BOAT DESIGNER....?

You have probably just built a boat, done a little figuring out of how to “improve” the design—the boat looks good and runs well—and you conclude that the whole experience was a lot of fun. And you think, “Hmmm, can I make a living at this?”

Or perhaps you find yourself thinking about boats all day long, sketching them, doodling, spending endless hours on the Internet and poring through all the latest boating magazines and thinking, “Gee, wouldn’t it be fun to get paid for designing boats?”

So you want to be a boat designer!???

Well, if I were your father, I’d probably cry.

What a dumb idea! Why don’t you get a real job, like, well...there have got to be a lot better and more secure jobs than designing boats! Do you want to be poor for the rest of your life? Who would hire you?

And there, folks, is the very crux of the problem. Who would hire you? And do you really think that people would actually pay you money to design their boat for them?

I don’t want to end this essay on a sour note; there is hope. But stick with me here for a reality check, and then we’ll get onto the practical advice.

Boat Designer’s Reality Check

The first question to ask yourself is, “Would I ever pay someone else to design a boat for me and then hire a builder and actually have it built?” Consider the whole picture in present terms (not in the future if your personal circumstances were different, but the here and now)—who you are; what your income is; whether your spouse and family are as seriously interested in the boat as you; the time it would take; what type of boat you really want; and the cost for the design and its construction. Be honest—would you and could you really go through with it? I bet that more than 99% of everyone reading this would say no, they would not or could not commission a design and build a boat. So if you wouldn’t do it, who would? Most people are just like you, and they wouldn’t do it either. So where’s the market?

Boats are expensive, and people don’t need boats. They are not a necessity of life. When a recession hits, boats are the first things to be left unused, sold, or gotten rid of, and they are the last things to be acquired or resurrected in an economic recovery. Boats have a surprisingly short useful life-span. And the prices and availability of production boats and used boats fill the needs of the vast majority of people. Those that really can afford to hire a designer and have a custom boat built are extremely rare.

Consider also the size of the boating market compared to other sports and leisure activities—golf, tennis, baseball, basketball, football, soccer, running, skating, surfing, cycling, and let’s not forget NASCAR! All of these activities are much bigger markets than boating. People spend a lot more time and money on these activities than they do on boats, I bet.

What all this boils down to is: The market for boat design and construction is microscopic!

Well, let's say that somehow you acquired the education and training to become a boat designer. You now have to compete with all of us other practicing designers who are already out there—a few hundred of us in the US. We experienced and well-established designers are all after the same few customers, and we have a lot more credibility than you who would be fresh out of the box. And that is the key—credibility—we have it, and you don't. Most people who have more money than brains to actually commission a boat design will at the very least consider a designer's past work, experience, and the recommendations of satisfied customers before plunking money down on a new design.

How long does it take to get credibility?

Take it from me, and I heard it from other designers before I got started:

It takes 10 to 15 years!

That's right, and that's a long time to starve, particularly if you have a family to support.

It took me six years of practice before I got my first boat design commission. It was another three years or so before I got the second one. And it was another year or two after that before I was making money at a respectable middle class income level. And not all of that was on original boat designs—that was also for writing, marine surveying, teaching, working for a boat builder, driving a taxi, anything to put food on the table.

And let's consider the customer's timing—how long does it take a customer to actually make up his or her mind to really start a boat design? That takes years, too! Most of the time, it takes the better part of a year, or more, between the time a customer first contacts a boat designer and when he or she actually signs a design contract and pays a deposit. I had one customer take 11 years! I've had a number of customers take years to actually get the boat built. Boat design and construction does not happen quickly—it is a v-e-r-y s-l-o-w p-r-o-c-e-s-s.

Cost of the design, of course, is very important, as is the cost of construction. The idea for you is to make a living at boat design, but the idea of the customer is to keep the cost as low as possible. The cost of actually creating a boat design is usually much more money than people are willing or able to pay. The vast majority of potential customers have boatbuilding dreams that are far beyond the capacities of their wallets. I have often said that someday, after I retire, I am going to write a book, and it's going to be called, *I want to build a boat, but I don't have any money*. It would be a litany of all the stories I get about people's boat building dreams. I hear it every week, and there is no point in pursuing these people as potential customers; they'll never be able to afford it.

So not only is the boat design market extremely small, but very few people can really afford to commission boat designs, and they take their own good time to make up their minds to proceed. None of this bodes well for making a living designing boats.

Listen to your father—get a real job!

Is there hope?

Sure, there is always hope, and if I have not scared you off yet, read on. It really does take perseverance, and you have to realize that you may not be designing boats in your own right. There are design jobs with boat design firms and boat builders that can bring you a respectable income and professional satisfaction. How do you do it?

For the high school student: The earlier you can start in your studies, the better. If you are in high school, study math and science and go to a naval architecture college: the University of Michigan (my alma mater), Webb Institute (completely tuition free), M.I.T., University of New Orleans, University of California at Berkeley, US Naval Academy, US Coast Guard Academy, US Merchant Marine Academy, and the University of Southampton in England, to name a few. For a very thorough list of universities, colleges, and boatbuilding and design schools around the world, go to this website:

<http://www.newavesys.com/MarineSchools.htm>

This website is run by my friend and colleague, Steve Hollister, naval architect, and the author of the hull design program that I use, Pro-Surf. This is the most complete list of schools that I know of. And study his Pro-Surf program which is quite powerful and easy to use.

Don't let anyone convince you to NOT go to a naval architecture college because colleges don't specialize in boat design. That's true, they don't really. They do offer some courses in small craft design, but their business is engineering. And you are not there to learn boat design per se, you are there to learn naval architecture and other engineering studies. You should want to be an engineer first, and a boat designer second. Once you know the principles of naval architecture and the fundamentals of engineering, the boat design specialty will fall right into place. But if you go to a school that specializes in just boat design, you will always be behind the 8-ball because you will lack the basic knowledge and understanding of engineering principles, physics, dynamics, hydrodynamics, aerodynamics, and all the other important stuff that comes to play in boat design. Go for the degree! It will give you credibility.

And after you get your degree, go for the professional engineer's license. You'll have to take two long examinations, four years apart: The Fundamentals of Engineering exam at about the time you graduate from college; and the Principles and Practices exam in naval architecture and marine engineering after you have accumulated about four years of experience and responsible work.

Those of you who have followed my work may know that I have been actively campaigning to make the PE exam voluntary instead of mandatory. I still believe that. But the hard fact of the matter is that licensing is becoming ever more prevalent in our society, and if you start at the beginning with a college education, getting the license is not that hard to do. It will also give you a big marketing advantage over your competitors. Go for the PE license. It will give you credibility.

While you are in college, study the art of drawing. Take some art courses. Take drafting and design courses. These days it is going to be nigh on impossible to get experience in drafting by hand; you'll be using computers. But the principles of drafting and drawing by hand and by

computer are the same—good plan layout, lettering technique, plan organization. Also get some experience with 3-D modeling and rendering programs. Your skills on the computer are what will get you your first job and advance you through your professional career.

The other advantage of going to college is that you may just find a technical field or area of study that really piques your interest and that you may find just utterly fascinating. You may find you don't like engineering at all and go off to the theater department and become a movie star! Who knows? College is meant to expose you to a variety of career possibilities, and you should taste the waters of as many as you can.

OK, so you have your naval architecture degree, now what? First of all, you have earned the privilege to call yourself a naval architect. The college degree gives you that right—it says so right there on the diploma—"naval architect." Naval architecture is the only engineering field that does not use the term "engineer", but it is engineering.

Look for a job with boat builders and design firms. The very most important thing that you can do when looking for a job is to arrange for an interview and then show up. Be on time! Bring a portfolio of your work. Dress appropriately. Comb your hair! After the interview, follow up with a thank you note, and later with a phone call if you have not heard anything in a week or two. Don't be discouraged! Persevere. If you land a job, you will now begin your apprenticeship in boat design and construction. From here on, it is a continuous learning experience, and you will likely be able to step through your career on your own. Place yourself as much as you can in way of opportunities, so that when they come knocking, you will be in a position to open the door.

For the adults who want a change of career: OK, the above is fine for the high school kid, but what about those of you who have already gone through college, perhaps have gone through one career, what can you do to get into boat design? If you can afford the time and the money, go back to college. Otherwise, there is The Landing School or Westlawn. See the weblink above for lists of other schools besides these.

The Landing School. The Landing School is an accredited vocational one-year residence school for boat design and boat building in Kennebunkport, Maine. Their website is www.landingschool.org. I served on the Advisory Board for the Design Program for seven years. Besides the boat design course, they offer two courses in Boat Building, one for small boats and one for large boats. They also have a Marine Systems course which teaches how to install and repair boat systems such as engines and shafting, electrical wiring and equipment, and plumbing systems.

In the boat design program, you will learn the basics of naval architecture, some rudiments of engineering, and you will design at least one powerboat and one sailboat. You will learn drafting by hand and on the computer. You will learn computerized 3-D surface modeling for hull design. The school brings in guest lecturers to speak on a variety of design, building, and business topics; they take you on field trips to design offices and boat builders in New England, and you serve an apprenticeship for about two weeks in the spring in either a design office or a boat building plant. It is a hell of a lot of education in one school year.

And one of the real advantages of The Landing School is that they have a spring-time job fair and a job placement program exclusively for their graduates and alumni. Over 95% of all Landing School graduates have jobs in the boating industry, an impressive record. And if you want to change jobs a few years later, you have access to the job postings in their job placement program. Only Landing School graduates have access to this service. What a deal—really!

By the way, it is called the Landing School because it is located on a farm that was once called “The Landing.”

The Westlawn Institute of Marine Technology. Suppose you cannot afford to be away from a paying job for a full year, what is your next recourse? The Westlawn Institute of Marine Technology, known simply as Westlawn, is an accredited correspondence course in boat design. It is owned by The American Boat and Yacht Council in Edgewater, Maryland, which publishes design and construction standards for boats. Westlawn’s website is www.westlawn.edu. I am less familiar with the details of Westlawn, but it has been around since long before I was born.

Westlawn has staff instructors that communicate with you by snail mail, email, and telephone. They send you assignments, you do them, you send them back, and the instructors grade them and send them back to you. When you have completed a lesson satisfactorily, they send you the next lesson. If you stick with it—and it takes a couple of years to do the whole program—you get a pretty good education. At the end, they, too, have a job placement service exclusively for Westlawn graduates.

I think what you miss at Westlawn is the immersion of an in-classroom experience, and the direct exposure to people working in the industry. There is less direct contact one-on-one with the instructor, and more importantly, with other students. Yes, you can communicate with other students by email, and that helps. It’s a trade-off—you may not get the intense exposure, but you do get the freedom to study at your own pace.

Whether you graduate from The Landing School or Westlawn, you will be able to call yourself a boat designer. You will not be a naval architect because naval architecture is a recognized degreed engineering discipline. But what really matters is that you will have the technical training to get a job. And isn’t that the whole point?

The End: If you have gotten all the way to here, then good for you—maybe you have what it takes to become a naval architect or a boat designer. It is not smarts that’s required, it’s perseverance! Good luck.

Unfortunately, I won’t be able to hire you—my office is in my home and I am the only employee in my company. I don’t even have a secretary. I have enough work to keep me busy—most of the time—and if I need additional help, I hire other naval architects and assign them design and engineering tasks. Sometimes other naval architects hire me. Between us, we have enough work to earn a living and keep ourselves going.

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